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Program to input an asset information and display its

depreciation table using the sum-of-the-years-digits method.

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**import** java.text.DecimalFormat;

**import** java.util.Scanner;

**public** **class** SumOfYearsDepreciation

{

// the global variables are declared

**static** **double** *assetCost* = 0;

**static** **double** *salvageValue* = 0;

**static** **double** *depreciableAmount* = 0;

**static** **int** *assetLife* = 0;

**static** **double** *depreciation* = 0;

// declare a Scanner class object

**static** Scanner *sc* = **new** Scanner(System.***in***);

// declare a DecimalFormat class object

**static** DecimalFormat *two* = **new** DecimalFormat("0.00");

// method to receive asset information

**public** **static** **void** AssetInfo()

{

// declare and initialize a variable

String assetType = "";

// display output block information

System.***out***.println("[[ Asset Information ]]");

// request, receive and echo the asset type

System.***out***.println("please input the asset type");

assetType = *sc*.nextLine();

System.***out***.println("Asset Type: " + assetType);

// request, receive, echo the asset cost, salvage value

System.***out***.println("please input the asset cost");

*assetCost* = *sc*.nextDouble();

System.***out***.println("Asset Cost: " +

*two*.format(*assetCost*));

System.***out***.println("please input the salvage value");

*salvageValue* = *sc*.nextDouble();

System.***out***.println("Salvage Value: " +

*two*.format(*salvageValue*));

// compute, echo depreciable amount as (cost - salvage)

*depreciableAmount* = *assetCost* - *salvageValue*;

System.***out***.println("Depreciable Amount: " +

*two*.format(*depreciableAmount*));

// request, receive and echo the asset life

System.***out***.println("please input the asset life");

*assetLife* = *sc*.nextInt();

System.***out***.println("Asset Life: " + *assetLife*);

}

// method to sum the years

**public** **static** **int** GaussSum(**int** num)

{

// declare and initialize a variable

**int** sumOfYears = 0;

// use Gauss Formula to sum the years

sumOfYears = num \* (num + 1) / 2;

// echo the sum of years

System.***out***.println("sum of years: " + sumOfYears);

// return the sum

**return** sumOfYears;

}

// method to show depreciation schedule

**public** **static** **void** ShowDepreciationSchedule(**int** per)

{

// print the table head

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("Year\t" + "Factor\t" + "Depreciation\t" +

"Bool Value");

System.***out***.println("----\t" + "------\t" + "------------\t" +

"----------");

**int** year = 0;

**int** life = *assetLife*;

**int** temp = *assetLife* + 1;

// calculate the depreciation and print it

System.***out***.println(year + "\t" + "------\t" +

*two*.format(*depreciableAmount*)

+ "\t" + *two*.format(*assetCost*));

**for** (**int** count = 1; count <= life ; count +=1 ) {

year += 1;

temp -= 1;

*depreciation* = *depreciableAmount* \* *assetLife* / per;

*assetCost* = *assetCost* - *depreciation*;

System.***out***.printf("%-4d%6d%1s%2d%11.2f%16.2f\n", year,

temp, "/", per, *depreciation*, *assetCost*);

*assetLife* -= 1;

}

}

// method to check depreciation

**public** **static** **boolean** CheckDepreciation()

{

**boolean** check ;

**if** (*assetCost* >= *salvageValue*) {

System.***out***.println("Book Value: " +

*two*.format(*assetCost*));

System.***out***.println("Salvage Value: " +

*two*.format(*salvageValue*));

System.***out***.println("The asset has not been depreciated"

+ "below its salvage value.");

check = **true**;

}

**else** {

System.***out***.println("Book Value: " +

*two*.format(*assetCost*));

System.***out***.println("Salvage Value: " +

*two*.format(*salvageValue*));

System.***out***.println("The asset has been depreciated"

+ "below its salvage value.");

check = **false**;

}

**return** check;

}

**public** **static** **void** main(String[] args)

{

// declare and initialize the local variable(s)

String userName = "";

// display output block information

System.***out***.println("<< Sum of Years Digits Program >>");

// meet and greet the program user

System.***out***.println("please enter your name: ");

userName = *sc*.nextLine();

System.***out***.println("welcome: " + userName + "\n");

// call the AssetInfo() method

*AssetInfo*();

// call the GaussSum() method

**int** percent = *GaussSum*(*assetLife*);

// call the ShowDepreciationSchedule() method

*ShowDepreciationSchedule*(percent);

// call the CheckDepreciation() method

*CheckDepreciation*();

// dismiss the Scanner class object

*sc*.close();

}

}

